

REMARKS

Attached hereto is a Declaration of Prior Invention in the United States to Overcome a Cited Patent Pursuant to 27 CFR §1.131. The Declaration is to swear behind the Reijnders (US 6,464,121) reference. The final rejection of the claims of the application at hand was based on 35 USC 103(a) over Reijnder in view of DeTorre (US 4,140,820) for claims 1-2, 4 and 5. For claims 3 and 6-8 the rejection was based on 35 USC 103(a) over Reijnder in view of DeTorre in further view of Duecker (US 5,927,582). The Applicant includes below the arguments centering on DeTorre and Duecker for reference as requested by the Examiner.

DeTorre

The Applicant respectfully traverses this rejection on several grounds. First off, the Applicant respectfully reasserts that the DeTorre patent is non-analogous art and therefore is not proper prior art. It is clearly not in the field of endeavor of electronic circuit production as is the present invention nor is it reasonably pertinent to the problem at hand. The principles of breaking glass along a score are well known and have been utilized for centuries. Glass is itself a rigid crystalline brittle structure. The present invention, however, goes to separating complex electrical circuit structures 12 from a multiple board array 20. Unlike glass, simple application of force to the surface can result in injury to electrical components 16 mounted on the circuit board 12. Additionally, while simple scoring and large scale force may be applicable to glass breaking, such techniques are far too unrefined for application to circuit board separation. Therefore, the Applicant respectfully submits that the DeTorre patent is not properly usable as prior art. The Examiner has also failed to provide any motivation to combine the Reijnders (**SWORN BEHIND**) and the DeTorre references as could be referenced in material found in either reference. This combined with the non-analogous nature of the DeTorre reference makes such a combination unreasonable.

Additionally, the Applicant respectfully traverses the Examiner's assertion that the DeTorre reference discloses or teaches a stabilizing element (114) as asserted by the office action. The Applicant calls the Examiner's attention to column 10 lines 29-34 of

the DeTorre reference. The Applicant notes that elements 112, 114, and 116 of the DeTorre reference are all taught as movable anvils used to apply a bending moment about the middle one. While these may be torque inducing, they are clearly not the equivalent of the present invention's stabilizing element 44 utilized to prevent flexing of the circuit board array 20. If subjected to the DeTorre apparatus, large scale board flexing would be guaranteed based upon the physics of the design taught by DeTorre. Therefore, in addition to being non-analogous, the DeTorre reference does not teach every element of the present invention as taught in claims 1-2 and 5.

Finally, it should be noted that the present invention includes a torque element capable of loading the multiple board array 20 without loading the electrical components 16 as not taught by DeTorre or Reijnders (**SWORN BEHIND**). The Examiner notes that he believes the combination of Figure 6 of the DeTorre reference applied to the bottom of figure 7 of the Reijnders reference would render the present invention obvious. The Applicant again traverses this assertion. No motivation to combine has been adequately argued by the office action. Furthermore, no address of the non-analogous nature of the DeTorre reference has been addressed (an argument not rendered moot by the addition of the Reijnders reference). The present invention further includes a torque element utilizing edge loading as is not taught by DeTorre nor Reijnders (**SWORN BEHIND**) either alone or in combination. And neither Reijnders nor DeTorre, either alone or in combination, teaches the reduction of board flex through the use of surface loading. The supposition that surface loading to the back side of a circuit board would shield all components from loading ignores the geometry of circuit design wherein components have leads the project through the circuit board and can transmit loading up through to the components themselves. For these and the aforementioned arguments, the Applicant respectfully requests the rejections to claims 1-2, 4 and 5 be removed.

Duecker

The office action states that Duecker teaches a plate member (41) and a plurality of springs (44), a transport element (24) with a plurality of wheels (25), and that the torque element is pneumatic. The office action thereby asserts it would have been obvious to combine these three references to arrive at the present invention.

The Applicant further asserts that Deucker is inappropriate as a prior art reference as well as it is non-analogous. Deucker teaches an apparatus for ripping apart stacks of corrugated cardboard boxes. The subject matter, the scale of operation, the forces involved, the physics involved with ripping cardboard are all well outside the field of endeavor of the present invention and would not be reasonable looked to as pertinent to the present invention's problem. Again, the Deucker reference deals with a material that is non-comparable to the loaded circuit board of the present invention. The stack of cardboard will not be damaged by minor flexing or loading forces applied to the circuitry mounted on its surface (as it inherently has none). Furthermore the ripping functions it utilizes would place it far beyond any considerations of usage.

What the office action attempts to construe as teaching a stabilizing element with
a plate and springs is in fact a high pressure clamp whose purpose is to secure the stack of cardboard such that the ends can be ripped off and not to stabilize a circuit board to prevent board flex. Again, neither the DeTorre reference nor the Deucker reference are proper prior art as they are both non-analogous. Furthermore, as the Reijnders (**SWORN BEHIND**) and DeTorre references fail to teach every element of the underlying claims, the combination of Reijnders (**SWORN BEHIND**), DeTorre and Deucker fails to teach every element of the rejected dependent claims. Applicant further reasserts the objection to the lack of any motivation to combine either asserted or referenced from any portion of the cited references. Again, the addition of the Reijnders (**SWORN BEHIND**) reference did not render moot the arguments thus far asserted by the Applicant regarding the DeTorre and Deucker references. Therefore, the Applicant respectfully requests the rejections to the above claims be removed.

CONCLUSION

The Applicant would like to thank the Examiner for his assistance. The Applicant respectfully asserts that proper evidence has been presented (sketches and a printed frame from video of a prototype - video can be made available) to swear behind the Reijnders reference. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

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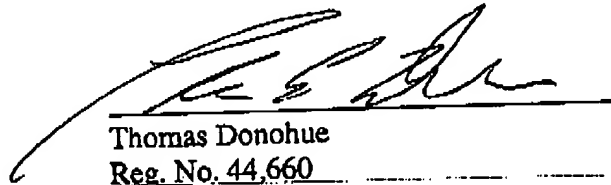
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Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

The Commissioner is authorized to charge any fees associated with the filing of this Response to Advisory Action to Deposit Account No. 50-0476.

Respectfully submitted,



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